



1 atgttgctgatcaactttttcatcgtctgttctgggagtgatatcactgtctcctattgtg
1 Met Leu Leu Ile Asn Phe Phe Ile Ala Val Leu Gly Val Ile Ser Leu Ser Pro Ile Val
61 gttgctcgttatattcttcgacgagattgcactacagttacggcttctcctccctgag
21 Val Ala Arg Tyr Ile Leu Arg Arg ^{Gln} Asp Cys Thr Thr Val Thr Val Leu Ser Ser Pro Glu
121 tctgtgacgagttcgaaccatgttcagctagccagtcagatgtgcgacagttaccttg
41 Ser Val Thr Ser Ser Asn His Val ^{Gln} Leu Ala Ser His Glu Met Cys Asp Ser Thr Leu
181 tcagcgtccctttatatctacaatgatgattatgataagattgtgacactttattatctt
61 Ser Ala Ser Leu Tyr Ile Tyr Asn Asp Asp Tyr Asp Lys Ile Val Thr Leu Tyr Tyr Leu
241 acatcgtcgggcacaaactgggtccgtaacagcgtcttattcttctagtttgagtaacaac
81 Thr Ser Ser Gly Thr Thr Gly Ser Val Thr Ala Ser Tyr Ser Ser Ser Leu Ser Asn Asn
301 tgggaattgtggtctctctcggctccggctgcagatgctgtcgagatcactggagctagt
101 Trp Glu Leu Trp Ser Leu Ser Ala Pro Ala Ala Asp Ala Val Glu Ile Thr Gly Ala Ser
361 tatgtagacagcgatgcactctgcgacatacggcagctcttttgatatacctcttactacc
121 Tyr Val Asp Ser Asp Ala Ser Ala Thr Tyr Ala Thr Ser Phe Asp Ile Pro Leu Thr Thr
421 acgacaacgctcgtcgtcttctgctagtgcgacttcaacatctagtctaaccacaacatct
141 Thr Thr Thr Ser Ser Ser Ser Ala Ser Ala Thr Ser Thr Ser Ser Leu Thr Thr Thr Ser
481 agtgtttccatttcgggtgtccgtccctacaggaacagctgcaaattggcgaggtagggt
161 Ser Val Ser Ile Ser Val Ser Val Pro Thr Gly Thr Ala Ala Asn Trp Arg Gly Arg Ala
541 atctatcagatcgtgactgatagattgcacgcactgacggctccaccacatatttatgc
181 Ile Tyr ^{Gln} Glu Ile Val Thr Asp Arg Phe Ala Arg Thr Asp Gly Ser Thr Thr Tyr Leu Cys
601 gatgttaccgatagggtctattgcggagggtcttatcaggggattatcaatatgctggat
201 Asp Val Thr Asp Arg Val Tyr Cys Gly Gly Ser Tyr Glu Gly Ile Ile Asn Met Leu Asp
661 tacatccaaggcatgggcttactgctatttggatttctctatagtggaataattccc
221 Tyr Ile ^{Gln} Thr Gly Met Gly Phe Thr Ala Ile Trp Ile Ser Pro Ile Val Glu Asn Ile Pro
721 gatgacaccggatacgggttacgcataatcatggttattggatgaaagatatcttcgccctg
241 Asp Asp Thr Gly Tyr Gly Tyr Ala Tyr His Gly Tyr Trp Met Lys Asp Ile Phe Ala Leu
781 aatacaaatttgggtactgcagacgatttgatagcgttggtacggaattgcataatcgc
261 Asn Thr Asn Phe Gly Thr Ala Asp Asp Leu Ile Ala Leu Ala Thr Glu Leu His Asn Arg
841 ggcattgacttgatggttgatattgtgtcaatcacttgccttcaggaagtcagcc
281 Gly Met Tyr Leu Met Val Asp ^{Gln} Val Val Asn His Phe Ala Phe Ser Gly Ser His Ala
901 gacgtggactactctgaatatttcccgtattcgtccaggaattatttcatcattttgc
301 Asp Val Asp Tyr Ser Glu Tyr Phe Pro Tyr Ser Ser ^{Gln} Thr Asp Tyr Phe His Ser Phe Cys
961 tggattacagattactcgaatcagacaaacggtgagcagtgctggcttggcgacgatact
321 Trp Ile Thr Asp Tyr Ser Asn ^{Gln} Thr Asn Val Glu Glu Cys Trp Leu Gly Asp Asp Thr
1021 gttcctctcgtggacgtcaatacccaacttgacaccggtgaaaagtgaatatcaatcctgg
341 Val Pro Leu Val Asp Val Asn Thr ^{Gln} Thr Leu Asp Thr Val Lys Ser Glu Tyr Gln Ser Trp
1081 gttcaagaacttatagctaattactctattgacggcctaagaattgacaccggtcaagcac
361 Val ^{Gln} Thr Glu Leu Ile Ala Asn Tyr Ser Ile Asp Gly Leu Arg Ile Asp Thr Val Lys His
1141 gtgcagatggatttttgggcaccatttcaagaggctgcagggtttagcggcttgggtgaa
381 Val ^{Gln} Thr Met Asp Phe Trp Ala Pro Phe ^{Gln} Thr Glu Ala Ala Gly Ile Tyr Ala Val Gly Glu
1201 gtattcgacggtgatccatcctacacatgtccatatcaggaaaatcttgacgggtgtcttg
401 Val Phe Asp Gly Asp Pro Ser Tyr Thr Cys Pro Tyr ^{Gln} Glu Glu Asn Leu Asp Gly Val Leu
1261 aattatcctgtttattatcctgtcgtctctgcgtttgagagtgttagtgggtcggctctcc
421 Asn Tyr Pro Val Tyr Tyr Pro Val Val Ser Ala Phe Glu Ser Val Ser Gly Ser Val Ser
1321 tcgttagtcgatatgattgatacgtcgaatgcacgacactactctcctaggc
441 Ser Leu Val Asp Met Ile Asp Thr Leu Lys Ser Glu Cys Thr Asp Thr Thr Leu Leu Gly
1381 tcctttctagagaatcaagataatccgcgattccctagctacacttctgatgagcttta
461 Ser Phe Leu Glu Asn ^{Gln} Thr Asp Asn Pro Arg Phe Pro Ser Tyr Thr Ser Asp Glu Ser Leu
1441 attaaaaatgcgatcgtttcactatgctctcagacggcattcccataatttattacggt
481 Ile Lys Asn Ala Ile Ala Phe Thr Met Leu Ser Asp Gly Ile Pro Ile Ile Tyr Tyr Gly

FIG. 1a

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1501 caggagcaaggcctcaatggtggaaacgatccctataatcgagaggcgctttggcttacg
501 Gln Glu Glu Gln Gly Leu Asn Gly Gly Asn Asp Pro Tyr Asn Arg Glu Ala Leu Trp Leu Thr
1561 ggctactccacaacgctcgacgttctacaaatacattgcgtcgttgaatcagattagaaat
521 Gln Gly Tyr Ser Thr Thr Ser Thr Phe Tyr Lys Tyr Ile Ala Ser Leu Asn Gln Ile Arg Asn
1621 caggctatatacaaagatgatacttctcacatcagaactgggttatttattcggat
541 Gln Ala Ile Tyr Lys Asp Asp Thr Tyr Leu Thr Tyr Gln Asn Trp Val Ile Tyr Ser Asp
1681 tccacgacaatagcaatgcggaaagggtttacagggaaccaataattacggttctgtca
561 Gln Ser Thr Thr Ile Ala Met Arg Lys Gly Phe Thr Gly Asn Gln Ile Ile Thr Val Leu Ser
1741 aatcttgggaccagtggcagttcgtacactttgacgctttcgaatacgggatataccgca
581 Asn Leu Gly Thr Ser Gly Ser Ser Tyr Thr Leu Thr Leu Ser Asn Thr Gly Tyr Thr Ala
1801 tctagcgttgatatgagatcttgacatgcacagctgtgactgtggattcgtctgggaat
601 Ser Ser Val Val Tyr Glu Ile Leu Thr Cys Thr Ala Val Thr Val Asp Ser Ser Gly Asn
1861 ttggcagtgccgatgtccagtggcctacaaaagtcttttaccaggaatcgcaactggt
621 Leu Ala Val Pro Met Ser Ser Gly Leu Pro Lys Val Phe Tyr Gln Glu Ser Gln Leu Val
1921 ggctctggaatctgctccatgtagag
641 Gly Ser Gly Ile Cys Ser Met

FIG. 1b